EXHIBIT 100

Message

From: Ramin Halavati (Google Docs) [comments-noreply@docs.google.com]
Sent: 2/10/2020 7:38:35 AM
To: rorymcclelland@google.com
Subject: The Incognito Story - I'm wondering how incognito does this...

Ramin Halavati mentioned you in a comment in the following document

The Incognito Story

Incognito mode, comes in handy, when you don't want this information to be available to a website.

Ben Kamber

I'm wondering how incognito does this and how the empty cookie jar propagates to these websites, given the statement below: "While Chrome does not keep history of what you do in incognito, the websites can keep a record of them on their own servers and remember it later, or remember whatever you enter in their forms."

Ramin Halavati

Incognito mode always starts with an empty cookie jar, and throws all cookies away when the last window is closed, therefore websites cannot keep anything local based on incognito browsing. But server side, they can store all user navigations in their site and entered data in forms. This data is not necessarily connected to this certain user (unless they sign-in), but exists.
Like if you go to a search engine in incognito and search for "How to make a bomb", the search engine necessarily does not know your identity, but can remember that someone (from this IP) has searched for how to build a bomb.

Ben Kamber

Right. And the website can assign any static identifiers it wants to that user, right?

Ramin Halavati

By "Static", do you mean persistent through next browsing experience?

Ben Kamber

Yes, an identifier assigned to that "user" across multiple visits of that website (using the same IP). Maybe what's missing here is a bridge between IP address and non-cookie website tracking. Incognito doesn't mask IP address, so websites can still track activity to the same user when they access the site, as you said in this sentence: "incognito mode cannot hide that as well from websites..." Since IP addresses are often household-level, I feel we may be glossing over this point, and users may feel we are overindexing on the cookie issue as a redirection.

While not completely perfect, and since websites talk to each other, it seems likely in the user's mind that there are lookup services - educated guesses that IP address x.y.z.zz is Ben Kamber based on my other traffic and authenticated Google searches. Couldn't IP (as imperfect and coarse as it is) then serve as a join

key to link my incognito searches (which websites may discern given a lack of cookies) and authenticated searches? Apologies if this is a very obvious issue or if I'm misunderstanding.

Ramin Halavati

New

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IP can be used to join the authenticated and incognito sessions and we have a parallel effort to reduce this in incognito mode.
But *as far as I know* IP is not a trustable unique identifier and that's why some websites try to combine it with other fingerprinting approaches to create a stable detection method across signed-out visits and clearing browsing data.
Therefore generally we can say that websites do not know who you are in incognito mode, but they can guess if they keep enough data.

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